

Claims

- [c1] 1. An aircraft comprising:
- a fuselage;
 - a central monitoring system positioned within said fuselage;
 - a plurality of seating elements positioned within said fuselage, each of said plurality of seating elements comprising:
 - a plurality of seat options integrated into said seating element; and
 - an electronics control system integrated into said seating element, said electronics control system including a seat processor having logic adapted to:
 - monitor an operational status of each of said seat options; and
 - communicate said operational status to said central monitoring system via wireless communication.
- [c2] 2. An aircraft as described in claim 1, wherein said electronics control system comprises:
- an essential network transmitter communicating said operational status of essential seat options; and
 - a non-essential network transmitter communicating said

operational status of non-essential seat options.

- [c3] 3. An aircraft as described in claim 1, wherein said central monitoring system comprises:
a portable wireless device.
- [c4] 4. An aircraft as described in claim 1, wherein said seat processor logic is further adapted to:
provide electronic controls to said seat options.
- [c5] 5. An aircraft as described in claim 4, further comprising:
a touchscreen in communication with said electronics control system, said touchscreen mounted within said seating element and providing user adjustment of said seat options.
- [c6] 6. An aircraft as described in claim 1, further comprising:
a seat mounted visual indication mounted to said seating element, said seat mounted visual identification in communication with said electronics control system, said seat mounted visual indication indicating said operational status.
- [c7] 7. An aircraft as described in claim 1, further comprising:
a battery backup assembly in communication with said electronics control system, said battery backup assembly mounted within said seat element.

- [c8] 8. An aircraft as described in claim 1, further comprising:
built in test equipment functionality integrated into said
electronics control system, said built in test equipment
functionality providing functional status of said seat op-
tions, said electronics control system communicating
said functional status to said central monitoring system.
- [c9] 9. An aircraft as described in claim 8, wherein said built
in test equipment further comprises:
tampering logic adapted to monitor tampering of safety
equipment.
- [c10] 10 .An aircraft as described in claim 1, wherein said seat
processor further comprises:
logic adapted to receive programming instructions from
said central monitoring system.
- [c11] 11. An aircraft as described in claim 1, wherein said seat
processor further comprises:
logic adapted to generate personalized instructions re-
garding said operational status of said seat options.
- [c12] 12. An aircraft as described in claim 1, wherein said seat
processor further comprises:
logic adapted to reduce power consumption by removing
power from non-essential seat options.
- [c13] 13. An aircraft as described in claim 12, wherein said

seat processor further comprises:

logic adapted to sense seat occupation, said logic removing power from non-essential seat options when said seat element is unoccupied.

[c14] 14. An aircraft as described in claim 1, further comprising:

a wireless literature tag affixed to aircraft literature stored within said seat element; and

logic adapted to monitor presence of said aircraft literature, said logic integrated into said seat processor.

[c15] 15. An aircraft as described in claim 1, wherein said seat processor further comprises:

logic adapted to identify a passenger seated within said seat element.

[c16] 16. An aircraft as described in claim 14, further comprising:

a wireless passenger identification tag affixed to a boarding pass; and

logic adapted to identify said passenger based on said wireless passenger identification tag.

[c17] 17. An aircraft as described in claim 15, further comprising:

a vision system integrated into said seat element, said

vision system in communication with said electronics control system, said vision system storing a visual identity of said passenger, said electronics control system communicating said visual identity to said central monitoring system.

[c18] 18. An aircraft as described in claim 16, wherein said central monitoring system compares said visual identity to a database of visual identities to identify said passenger.

[c19] 19. An aircraft as described in claim 1, wherein said seat options include a gasper fan mounted within said seat element.

[c20] 20. An aircraft as described in claim 1, wherein each of said plurality of seat elements can be electrically connected to said fuselage using only a ship power connection.

[c21] 21. An aircraft as described in claim 20, wherein said ship power connection comprises:
an essential ship power connection; and
a non-essential ship power connection.

[c22] 22. An aircraft as described in claim 1 further comprising:
logic adapted to sense seat occupation; and

an airline environmental flow control in communication with said central monitoring system, said airline environmental flow control adjusting environmental flow in response to said seat occupation.

[c23] 23. An aircraft comprising:

- a fuselage;
- a central monitoring system positioned within said fuselage;
- a plurality of seating elements positioned within said fuselage, each of said plurality of seating elements comprising:
 - a plurality of modular seat options integrated into said seating element; and
 - an electronics control system integrated into said seating element, said electronics control system including a seat processor having logic adapted to:
 - monitor an operational status of each of said modular seat options;
 - provide control functions to each of said modular seat options; and
 - communicate said operational status to said central monitoring system.

[c24] 24. An aircraft as described in claim 23, wherein said electronics control system communicates with said central monitoring system via a universal transmission bus

network line.

- [c25] 25. An aircraft as described in claim 23, wherein said seat processor logic is upgradeable from within said seat element to accommodate new modular seat options.
- [c26] 26. An aircraft as described in claim 23, wherein said electronics control system communicates with said central monitoring system via a wireless communication network.
- [c27] 27. An aircraft as described in claim 23, wherein said modular seat options include:
a gasper fan assembly integrated into a back seat portion of said seating element.
- [c28] 28. An aircraft as described in claim 27, wherein said modular seat options include:
fresh air intakes integrated into a back seat portion of said seating element, said fresh air intakes in communication with said gasper fan assembly.
- [c29] 29. An aircraft as described in claim 23, wherein said central monitoring system comprises:
a portable wireless device.
- [c30] 30. An aircraft as described in claim 23, further comprising:

built in test equipment functionality integrated into said electronics control system, said built in test equipment functionality providing functional status of said modular seat options, said electronics control system communicating said functional status to said central monitoring system.

[c31] 31. An aircraft as described in claim 23, further comprising:

an in-flight entertainment unit integrated into said seat element.

[c32] 32. An aircraft as described in claim 23, wherein said seat processor further comprises:

logic adapted to generate personalized instructions regarding said operational status of said modular seat options.

[c33] 33. An aircraft as described in claim 23, wherein said seat processor further comprises:

logic adapted to sense seat occupation, said logic removing power from non-essential seat options when said seat element is unoccupied.

[c34] 34. An aircraft as described in claim 23, further comprising:

a wireless literature tag affixed to aircraft literature

stored within said seat element;
logic adapted to monitor presence of said aircraft literature, said logic integrated into said seat processor; and
reporting said presence to said central monitoring system.

[c35] 35. An aircraft as described in claim 23, wherein said seat processor further comprises:
logic adapted to identify a passenger seated within said seat element.

[c36] 36. An aircraft as described in claim 35, further comprising:
a wireless passenger identification tag affixed to a boarding pass; and
logic adapted to identify said passenger based on said wireless passenger identification tag.

[c37] 37. An aircraft as described in claim 35, further comprising:
a vision system integrated into said seat element, said vision system in communication with said electronics control system, said vision system storing a visual identity of said passenger, said electronics control system communicating said visual identity to said central monitoring system.

[c38] 38. A method of monitoring the status of a plurality of seat options positioned in a plurality of seating elements within a fuselage of an aircraft, the method comprising: monitoring an operational status of each of said seat options using an electronic control system positioned within each of said plurality of seating elements; and communicate said operational status to a central monitoring system via wireless communication.

[c39] 39. A method as described in Claim 38, further comprising:
receiving a desired status from said central monitoring system;
using said electronic control system to compare said desired status to said operational status of a specific seating element; and
generating personalized instructions to change said operational status to said desired status; and
using said electronic control system to deliver said personalized instructions to said specific seating element.

[c40] 40. A method as described in Claim 38, further comprising:
transmitting a passenger identification signal from a wireless transmitter embedded in a boarding pass;
receiving said passenger identification signal using said electronics control system;

reporting said passenger identification signal to said central monitoring system via said wireless communication.

[c41] 41. A method as described in Claim 38, further comprising:

monitoring seat occupation in each seat element using said electronics control system; and
removing power from non-essential seat options in each seat element that is unoccupied.

[c42] 42. A method as described in Claim 38, further comprising:

using a vision system embedded in each seat element to record a passenger identification; and
reporting said passenger identification to said central monitoring system.

[c43] 43. A method as described in Claim 38, further comprising:

transmitting a wireless signal from a wireless literature tag attached to airline literature positioned within said seat element;
receiving said wireless signal using said electronics control system; and
reporting said wireless signal to said central monitoring system via said wireless communication.

